Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Cancelled)

2. (Cancelled)

3. (Amended) The method of claim ~~2, wherein choosing the optimized path comprises~~30, further comprising:

storing the ~~monitored flows of~~ data ~~communicated over~~flow characteristics for each of the plurality of paths as statistical data; and

retrieving the statistical data.

4. (Cancelled)

5. (Amended) The method of claim ~~4,~~28, wherein routing the ~~flow of data~~second packet includes changing one or more source addresses in a routing table to include the optimized path~~from the destination to the source~~.

6. (Cancelled)

7. (Amended) The method of claim ~~2,~~28, wherein the optimized path is applied to a routing table available to the network.

8. (Amended) The method of claim ~~3,~~28, wherein the optimized path is an egress path.

9. (Original) The method of claim ~~1,~~30, wherein ~~the~~one of the plurality of additional paths is a default route path.

10. (Cancelled)

11. (Amended) The method of claim ~~10,~~28, wherein ~~at least one~~the probe includes information about the network latency of ~~each of~~ the ~~plurality of paths~~second path from the source to the destination.

12. (Amended) The method of claim ~~10,~~28, wherein ~~at least one~~the probe includes information about the network loss of ~~each of~~ the ~~plurality of paths~~second path from the source to the destination.

13. (Amended) The method of claim ~~10, where in at least one~~28, wherein the probe includes information about network jitter of ~~each of~~ the ~~plurality of paths~~second path from the source to the destination.

14. (Amended) The method of claim ~~1,~~28, wherein ~~monitoring~~routing the ~~traffic service level associated with each of the plurality of paths between the source and the destination~~second packet further comprises:

determining whether the ~~flow of data~~second packet is a specific traffic type; and

if so, classifying the ~~flow of data~~second packet as the specific traffic type,

wherein the specific traffic type is used in routing the ~~flow of data~~second packet.

15. (Cancelled)

16. (Amended) The method of claim ~~15, wherein capturing the one or more data packets~~31, further comprise~~s~~ing:

filtering one or more data packets according to a filtering criterion; and

removing the one or more data packets ~~up~~ from the network.

17. (Amended) The method of claim ~~15,~~31, wherein the packet ~~information~~header includes a source address and a destination address.

18. (Amended) The method of claim ~~15,~~31, further comprising:

~~receiving the grouped traffic flow characteristics for the associated destination;~~

receiving a service level metric;

interpreting whether the service level metric is violated; and

upon such a violation, providing feedback for use in resolving such a violation.

19. (Original) A system for maintaining a traffic service level of a traffic flow in which the traffic flows to and flows from a computer network having a source, the computer network coupled to at least one of a plurality of networks, each of the networks includes a plurality of paths for transporting the traffic to a destination, where at least two of the networks are electrically coupled at an interconnection point and where the traffic flows through the interconnection point, the system comprising:

a passive flow analyzer configured to receive the traffic flow;

a calibrator configured to actively probe one or more alternative paths to the destination to determine a subset of alternative paths;

a traffic flow repository coupled between the passive flow analyzer and the calibrator to store information regarding the alternative paths and the traffic flow;

a controller coupled between the passive flow analyzer and the calibrator;

an optimizer coupled to the traffic flow repository to determine optimized ingress paths;

a modulator coupled between the optimizer and the controller to generate a modified routing table; and

a router to route the traffic flow according to the modified routing table,

wherein the modified routing table includes a changed source address where the changed source address is associated with an optimized ingress path from the destination and an alternate path to the destination.

20. (Original) A system for maintaining a traffic service level over at least two of the networks electrically coupled at an interconnection point, where traffic flows through the interconnection point, by changing default routing tables of a plurality of regional networks, where a first regional network includes a first region router coupled to a first region route server, and a second regional network includes a second region router coupled to a second region route server, the system comprising:

a first region passive flow analyzer configured to receive the traffic flow from the first region;

a second region passive flow analyzer configured to receive the traffic flow from the second region;

a first region calibrator configured to actively probe one or more alternative paths to the destination to determine a first subset of alternative paths;

a second region calibrator configured to actively probe one or more alternative paths to the destination to determine a second subset of alternative paths;

a central traffic flow repository coupled between the first region passive flow analyzer, the second region passive flow analyzer, the first region calibrator and the second calibrator to store information regarding the first subset and the second subset of alternative paths and the first region and the second region traffic flow; and

a central route server coupled between the central traffic flow repository and

the first region route server and the second region route server to receive a first region routing table and a second region routing table, respectively,

wherein, the central route server provides the first route server with a first 23

modified routing table and provides the second route server with a second modified routing 24 table.

21. (Original) The system of claim 20, wherein the central route server is coupled to a second central route server.

22. (Original) The system of claim 20, wherein the central route server is coupled to a parent central route server, wherein the parent central route server is further coupled to one or more central router servers where each of the one or more central router servers are associated with one or more regions.

23. (Original) The system of claim 22, wherein the parent central route server provides the first central route server with a first central modified routing table and provides the one or more central route servers with one or more central modified routing tables.

24. (Original) The system of claim 20, further comprising a first region traffic flow repository coupled to the first region passive flow analyzer to store information regarding the alternative paths and the traffic flow of the first region; and

a second region traffic flow repository coupled to the second region passive flow analyzer to store information regarding the alternative paths and the traffic flow of the second region.

25. (Original) A system for maintaining a traffic service level over at least two of the networks electrically coupled at an interconnection point, where traffic flows through the interconnection point, by changing default routing tables of a plurality of regional networks,

where a first regional network includes a first region router coupled to a first region route server, and a second regional network includes a second region router coupled to a second region route server, the system comprising:

a first region passive flow analyzer configured to receive the traffic flow from the first region;

a second region passive flow analyzer configured to receive the traffic flow from the second region;

a first region calibrator configured to actively probe one or more alternative paths to the destination to determine a first subset of alternative paths;

a second region calibrator configured to actively probe one or more alternative paths to the destination to determine a second subset of alternative paths;

a first region calibrator repository coupled to the first calibrator to store information regarding the alternative of the first region;

a second region calibrator repository coupled to the second calibrator to store information regarding the alternative of the second region;

a first region controller coupled between the first region calibrator repository and the first region passive flow analyzer, the first region controller further coupled to the first region route server to advertise a first region metric to other regions; and

a second region controller coupled between the second region calibrator repository and the second region passive flow analyzer, the second region controller further coupled to the second region route server to advertise a second region metric to other regions,

wherein the first region route server and the second region route server are coupled to resolve a service level violation from either region.

26. (Cancelled)

27. (Cancelled)

28. (New) A method for maintaining a traffic service level for data communicated by a computer network having a source, the computer network coupled to at least one of a plurality of networks, each of the networks includes a plurality of paths for transporting the data communicated to a destination, the method comprising:

examining a packet header of a first packet that has been routed along a first path to the destination to determine data flow characteristics of the first path;

comparing the data flow characteristics of the first path to one or more performance metrics to determine whether the data flow characteristics of the first path satisfy the performance metrics;

indicating a service level violation when the data flow characteristics of the first path fail at least one of the performance metrics;

comparing the data flow characteristics of the first path to data flow characteristics of a second path to determine an optimized path, wherein the data flow characteristics of the second path are determined by transmitting a probe along the second path to the destination to determine the data flow characteristics of the second path; and

routing a second packet to the destination along the optimized path.

29. (New) The method of claim 28, wherein the probe comprises one of a Sting probe, a lightweight TCP-based probe, and a traceroute probe.

30. (New) The method of claim 28, further comprising comparing the data flow characteristics of the first path to data flow characteristics of a plurality of additional paths, wherein the data flow characteristics of each of the plurality of additional paths are determined by transmitting at least one probe along each of the plurality of paths to the destination.

31. (New) A method for passively analyzing data flow to maintain a traffic service level for data communicated by a computer network having a source, the computer network coupled to at least one of a plurality of networks, each of the networks includes a plurality of paths for transporting the data communicated to a destination, the method comprising:

examining a first plurality of packet headers for a first plurality of packets that have been routed to the destination along a first path to determine data flow characteristics for each of the first packets along the first path;

combining the data flow characteristics for each of the first packets into a traffic flow for the first path;

examining a second plurality of packet headers for a second plurality of packets that have been routed to the destination along a second path to determine data flow characteristics for each of the second packets along the second path;

combining the data flow characteristics for each of the second packets into a traffic flow for the second path;

forming an aggregate service level associated with the destination from the traffic flow for the first path and the traffic flow for the second path;

receiving a packet to be routed to the destination; and

routing a packet to the destination based at least in part on the aggregate service level.

32. (New) A computer product of the type comprising a computer readable medium that contains one or more executable instructions to maintain a traffic service level for data communicated by a computer network having a source, the computer network coupled to at least one of a plurality of networks, each of the networks includes a plurality of paths for transporting the data communicated to a destination, the product comprising:

computer code to examine a packet header of a first packet that has been routed along a first path to the destination to determine data flow characteristics of the first path;

computer code to compare the data flow characteristics of the first path to one or more performance metrics to determine whether the data flow characteristics of the first path satisfy the performance metrics;

computer code to indicate a service level violation when the data flow characteristics of the first path fail at least one of the performance metrics;

computer code to compare the data flow characteristics of the first path to data flow characteristics of a second path to determine an optimized path, wherein the data flow characteristics of the second path are determined by transmitting a probe along the second path to the destination to determine the data flow characteristics of the second path; and

computer code to route a second packet to the destination along the optimized path.

33. (New) The computer product of claim 32, further comprising computer code to compare the data flow characteristics of the first path to data flow characteristics of a plurality of additional paths, wherein the data flow characteristics of each of the plurality of additional paths are determined by transmitting at least one probe along each of the plurality of paths to the destination.